

REMARKS/ARGUMENTS

Applicant has received the Office Action dated April 8, 2008, in which the Examiner: 1) rejected claims 1-67 under 35 U.S.C. § 112, 2nd paragraph, as being allegedly indefinite; 2) rejected claims 1, 2, 4, 5, 10, 12-19, 25, 27-30, 35-38, 43-50, 55-62 and 67 under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Pat. No. 4,843,541 ("*Bean*"); 3) rejected claims 6-9, 11, 26, 31-34, 39-42, 54 and 66 under 35 U.S.C. § 103(a) as being allegedly unpatentable over *Bean*; 4) rejected claims 20-22, 51-53 and 63-65 as being allegedly unpatentable over *Bean* in view of U.S. Pat. No. 6,256,657 ("*Chu*"); 5) rejected claims 23 and 24 as being allegedly unpatentable over *Bean* in view of U.S. Pat. No. 6,789,156 ("*Waldspurger*"); and 6) rejected claim 3 as being allegedly unpatentable over *Bean* in view of U.S. Pat. No. 6,296,847 ("*Bugnion*").

With this Response, Applicant has amended claims 1, 10, 16, 28, 36, 44 and 47. Based on the amendments and arguments contained herein, Applicant respectfully requests reconsideration and allowance of the pending claims.

I. REJECTIONS UNDER § 112, SECOND PARAGRAPH

The Examiner rejected claims 1-67 as being indefinite. The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). MPEP § 2173.02 explains that some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the Examiner might desire.

With regard to claims 1, 13, 28, 36, 44, and 56, the Examiner indicates that the term "the memory" does not convey the amount of memory that is virtualized. Applicant submits that amount of memory is not a limitation in the above claims as it is in other claims (*e.g.*, claim 10). The question of "how much memory is virtualized" goes to the breadth of the claims rather than their definiteness.

With regard to claim 16 and 47, the Examiner indicated that it is unclear why the operating system is used after devirtualization. Applicant deleted the phrase “wherein following the runtime devirtualization memory translation is performed by directly using the virtual-to-physical mapping defined by the operating system” from claim 16. Similarly, Applicant has deleted the phrase “wherein after the runtime devirtualization is performed, memory translation is performed by directly using the virtual-to-physical mapping defined by the operating system” from claim 47.

Applicant submits that one of skill in the art would understand the pending claims when read in light of the specification. Accordingly, Applicant respectfully requests that the rejections under § 112, second paragraph, be withdrawn.

II. REJECTIONS UNDER § 102

The Examiner rejected claims 1-2, 4-5, 10, 12-19, 25, 27-30, 35-38, 43-50, 55-62 and 67 as being anticipated by *Bean*. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Amended claim 1, in part, requires “waiting to commence virtualization of the memory until runtime.” *Bean* describes dynamically reassigning resources to different operating systems (see *e.g.*, col. 22, lines 50-60), but does not indicate that virtualization does not commence until runtime as in claim 1. For at least this reason, claim 1 and its dependent claims are allowable over *Bean*.

Claim 13, in part, requires “devirtualizing the memory at runtime.” The Examiner cites *Bean* at col. 22, lines 47-55 and col. 29, lines 33-55 as teaching this limitation. See Office Action dated 04/08/08, page 5, item 12. *Bean* appears to describe dynamic reassignment of resources without devirtualizing the memory. Switching a partition from one guest to another as in *Bean* involves reassigning virtual memory rather than devirtualizing memory as in claim 13. One

of ordinary skill in the art would understand that *Bean*'s reassignment of virtual memory does not reduce virtualization overhead as does Applicant's devirtualization. For at least these reasons, claim 13 and its dependent claims are allowable over *Bean*.

Amended claim 28, in part, requires "memory including first and second portions, the first portion encoded with a virtual machine monitor that waits to commence virtualization of the second portion until runtime." For much the same reason as given for claim 1, *Bean* does not teach the above limitations. For at least this reason, claim 28 and its dependent claims are allowable over *Bean*.

Amended claim 36, in part, requires "computer memory including a first portion encoded with a virtual machine monitor that waits to commence virtualization of a second portion of the memory until runtime." For much the same reason as given for claim 1, *Bean* does not teach the above limitations. For at least this reason, claim 36 and its dependent claims are allowable over *Bean*.

Amended claim 44 requires "a virtual machine monitor for virtualizing the memory and devirtualizing the memory at runtime, wherein the virtual machine monitor virtualizes the memory when multiple operating system instances are running and devirtualizes the memory when a single operating system instance is running." For much the same reasons as given for claim 13, *Bean* does not teach devirtualizing memory at runtime as in claim 44. Further, *Bean* does not teach devirtualizing memory when a single operating system instance is running as in claim 44. Instead, *Bean* appears to assume that multiple operating systems will be running (see *e.g.*, col. 7, lines 57-61). For at least these reasons, claim 44 and its dependent claims are allowable over *Bean*.

Claim 56, in part, requires "memory encoded with software for devirtualizing the computer memory at runtime." For much the same reasons as given for claim 13, *Bean* does not teach devirtualizing the computer memory at runtime as in claim 56. For at least this reason, claim 56 and its dependent claims are allowable over *Bean*.

III. REJECTIONS UNDER § 103

Claims 20-22, 51-53 and 63-65 were rejected as obvious over *Bean* in view of *Chu*. Claims 22-22, 51-53, and 63-65 depend from claims 13, 44 and 56 respectively and are allowable for the same reasons. *Chu* does not overcome the deficiencies of *Bean* with respect to claims 13, 44, and 56. For at least these reasons, claims 20-22, 51-53 and 63-65 are allowable over *Bean* and *Chu*.

Claims 23-24 were rejected as obvious over *Bean* in view of *Waldspurger*. Claims 23-24 depend from claim 13 and are allowable for the same reasons. *Waldspurger* does not overcome the deficiencies of *Bean* with respect to claim 13. For at least these reasons, claims 23-24 are allowable over *Bean* and *Waldspurger*.

Claim 3 was rejected as obvious over *Bean* in view of *Bugnion*. Claim 3 depends from claim 1 and is allowable for the same reason. *Bugnion* does not overcome the deficiencies of *Bean* with respect to claim 1. For at least these reasons, claim 3 is allowable over *Bean* and *Bugnion*.

IV. CONCLUSIONS

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the cited art which have yet to be raised, but which may be raised in the future.

Applicant respectfully requests reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including

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fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

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